

WHAT IS CLAIMED IS:

1. A method for controlling dental caries in the oral cavity of a host, comprising administering to the oral cavity of the host an effective amount of a purified SmaA protein or amylase-binding polypeptide fragment thereof.
2. The method of claim 1 wherein the SmaA protein or fragment is recombinantly-produced.
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3. The method of claim 1 which comprises administering the amylase-binding polypeptide fragment to the oral cavity of the host.
4. The method of claim 3 wherein the polypeptide is non-immunogenic.
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5. The method of claim 1 which comprises administering to the host an oral composition including a purified SmaA protein or an amylase-binding polypeptide fragment thereof, and an orally acceptable excipient.
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6. The method of claim 5 wherein the oral composition is a mouthwash composition including water.
7. The method of claim 5 wherein the oral composition is a dentifrice composition including a polishing agent.
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8. The method of claim 5 wherein the oral composition is a chewing gum.
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9. The method of any of claims 5-8 wherein the SmaA protein or the polypeptide fragment is recombinantly-produced.

10. The method of claim 9 which comprises administering the polypeptide fragment, and wherein the polypeptide fragment is non-immunogenic.

5 11. A recombinant polypeptide having an amino acid sequence corresponding to the amino acid sequence of SmaA or a polypeptide fragment thereof.

10 12. An oral composition comprising a purified SmaA protein or an amylase-binding polypeptide fragment thereof, and an orally acceptable carrier.

15 13. The composition of claim 12 which is a mouthwash composition.

14. The composition of claim 12 which is a dentifrice composition.

15 15. The composition of claim 12 which is a chewing gum.

20 16. An isolated DNA sequence encoding (i) SmaA protein or (ii) a polypeptide fragment of SmaA protein.

17. A vector comprising a DNA sequence of claim 16 in operable association with a promoter.

25 18. A host cell comprising introduced DNA, said introduced DNA including a DNA sequence of claim 16 in operable association with a promoter.

30 19. A method of producing SmaA or a polypeptide fragment thereof, comprising culturing a host cell of claim 18 under conditions sufficient to obtain expression of said DNA sequence.

20. The method of claim 19, and also comprising isolating the SmaA protein or polypeptide fragment produced.